

LUMA: The Next Step in a Partnership to Enhance Technology Integration

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Abstract: Technology enriched learning environments have a positive effect on the achievement of students. It would seem, therefore, that the environments of in-service educators must also be rich in technology and technology integration. After developing a partnership that focuses specifically on technology integration with pre-service and in-service educators, a second partnership developed to work with specific academic departments at the Upper School level integrating technology within an established curriculum. The goal of this partnership, LUMA (Lehigh University/Moravian Academy), was to give teachers in specific academic areas access to materials, plans, ideas, and support for integrating appropriate technologies into their class activities. From experience, the developers of this partnership know what *doesn't* work—the one-day, one-shot, show-and-tell workshop developed by outside consultants and delivered to teachers. Instead, these workshops were designed to be spread out over an academic semester, involve the teachers in the design and development, and provide support for the teachers between workshops.

Introduction

Technology enriched learning environments have a positive effect on the achievement of students (Schacter, 1999). It would seem, therefore, that the environments of in-service educators must also be rich in technology and technology integration. The CEO Forum in its StaR Report (February 1999) built a strong case for enhancing the education of in-service teachers in technology and curriculum integration. In fact, one of the seven goals of the report deal directly in-service teacher education:

Goal 2: Current teachers and administrators should be proficient in integrating technology into the curriculum.

Yet, according to the report, only 20 percent of teachers feel well prepared to integrate technology into their classroom instruction. Teachers lacking support and encouragement are more likely to give up using technology if something should go awry (Bronack & Hornung, 2000). A National Survey of Teachers' Use of Digital Content highlighted in Education Week (1999) found that 97% of the teachers surveyed used a computer at home. Of those who use computers for instruction, nearly half of those surveyed claimed that the amount of preparation time necessary for curriculum integration was a large problem. In order for standards to be met and teachers to feel prepared, in-service and pre-service educators must make effective use of technology in learning and show evidence that this learning has taken place (Schacter, 1999). However, teachers must see the relevance of technology integration and what they teach to use technology effectively and show evidence of learning.

A Partnership

Aligning and infusing technology into the curriculum should be a top goal for educators (Fatemi, 1999). In the Fall of 1998 a partnership between Lehigh University and Moravian Academy- a preK-12 independent school, was established to help meet standards and prepare teachers. Throughout these past three years, the partnership has

focused on technology integration in school curriculum. The partnership paired a pre-service, Lehigh University, undergraduate with an in-service, Moravian Academy, mentor teacher. Their goal was to work together on technology integration while balancing classroom management, school philosophies and time. The partnership has seen great success and will continue in the Spring of 2000.

The Partnership Continues

Evaluations from the partnership, however, brought to fruition the idea of working with specific academic departments at the Upper School level to integrate technology within the established curriculum. The goal of this partnership, LUMA (Lehigh University/Moravian Academy), is to give teachers in specific academic areas access to materials, plans, ideas, and support for integrating appropriate technologies into their class activities. From experience, the developers of this partnership know what *doesn't* work—the one-day, one-shot, show-and-tell workshop developed by outside consultants and delivered to teachers. Instead, these workshops were designed to be spread out over an academic semester, involve the teachers in the design and development, and provide support for the teachers between workshops.

Designing the Partnership

The academic areas of focus for this semester in the LUMA workshops were math and foreign language. A team of three graduate students, from Lehigh University, served as the designers of the workshop materials. The graduate students worked with a designated faculty team member from Moravian Academy in each academic area to gather resources, design materials, and to prepare for each workshop. The faculty member served two functions --to ensure that what is designed by the graduate student fit the needs of the department, and to increase the likelihood that the other department faculty will join in the workshops.

One partnership goal was to spread out the workshop meeting dates over the course of the semester. Therefore, workshops were delivered in September, October and one in December to interested teachers in that academic area. The materials developed for each content area included: development of a course website, gathering of instructive educational websites for each discipline and the introduction and implementation of Webquest. (Webquest is a teaching tool which integrates technology and curriculum directly.) The course website and Webquest materials included identifying and reviewing other websites and software, example activities, assessments, rubrics, and best practice models. The graduate students designed many of these materials and activities, as well as an "instructors guide" for the workshop that can be used by Moravian faculty for future technology integration workshops.

Communication was a key factor in bringing together the many facets this partnership required. At the onset the participants were enrolled in a webcourse designed specifically for the workshop (<http://www.blackboard.com/LUMA-educ>). Weekly emails updated the Moravian teachers on hot topics and "Tidbits" of information useful to the discussions and practical applications that had been explored during the workshops. This was also the forum for questions and answers. The graduate students shared responsibility in checking the website, answering email questions and adding useful information weekly.

Evaluating the Partnership

Since the inception of the LUMA partnership, the graduate students have been working to structure and implement the fall workshops. Together the graduate students wrote a power-point presentation to outline the workshops for the Moravian Academy faculty team member. The course website created a space for the information collected and used to be kept in one place for all participants to have access to. This also allowed a place for a "journal" to be kept about the progress of the planning and workshop implementation. At the completion of the second workshop, we asked each teacher to provide an evaluation and description of their needs for future planning. This evaluation directed us in planning our final workshop. Our goal was to divide in specific academic areas and work individually with the faculty participants. Perhaps this will be the impetus needed for several of the teachers to use their course workshop as a teaching tool.

Implementing this New Partnership and the Implementation Dip

As with any new program, the implementation dip was prevalent for our Upper School partnership. Lack of time, experience and even interest were some of the factors that hindered the program. Our goal to spread the instruction over the course of several weeks was designed so that the teachers would have an opportunity to work on their own in developing curriculum appropriate work within a course web-site. We felt that beginning our work in September would allow teachers the time to start their school year with fresh ideas. We encountered the opposite to be true. Most of the teachers were overwhelmed with beginning of the year obligations and spent little to no time working on their course website. In addition, the initial time spent introducing the teachers to the course website and design may have overwhelmed our participants from the beginning. Therefore, they may have been reluctant to take future implementation steps.

Lack of experience also hindered some of the educator's growth. While our attempt to match a graduate student with teachers in specific academic departments appeared ideal, the graduate students were not present to the faculty at Moravian on a regular basis. An on-line presence was established but very few of the teachers took advantage of that assistance. Several of the teachers took advantage of the workshop time to develop together their course websites. This group experience appeared to assist each other and "join" their experiences together. While these educators may not have created their own course website, they did create an academic department website to assist them in their teaching. This experience, therefore, may have brought together a new collaboration that was not present prior to the workshops.

Some of those educators who joined the workshop at its inception were unclear of what tools the workshop would provide them. After seeing the varied uses available in a course website, several of the teachers felt that this technology would not be a key tool in their curriculum. Therefore, they chose to not participate further in the workshops. Other factors such as time and experience may have also influenced the several teachers who did not complete the three workshop cycle.

For those teachers who did complete the three workshop cycle, the implementation dip was prevalent. In fact, as far as the researchers can tell, it may take more than one workshop cycle to support and work through the needs of the various educators within each department.

Some Examples of Teacher Needs

At the completion of the second workshop, those teachers present were encouraged to communicate via email what needs they still would like to be met in the course of these workshops. Here are just a few examples of what they shared with the presenters:

"It was great having the time to sit at the computer and play! I never have the chance to do that during the school day. I think this is why I have not had my students do anything with computers as of now. Next week they will have the opportunity to check out that "day of the dead" web site. I would have liked to create my own web site today. Guess I got side tracked. I'm going to try and do that on my own, and if I run into trouble then I will contact one of you guys." Ali, Upper School Spanish.

"I need lots of time for the simplest concepts to sink in because I rarely see the "big picture" right away. But I am making progress. I went in this morning thinking that a personal web page was a year or 2 down the road, but now I think I may be able to handle this in a few months. However, when simple things like sending Claire an e-mail through the Blackboard site don't work, I get discouraged, put the LUMA stuff away, and don't touch it until the next meeting." Mimi, Middle School Spanish

"Since this was my first LUMA workshop, I was mostly "playing" with the Blackboard.com...I am open to researching the use of websites to allow me to post info about my classes and to research useful things for class. I'm not too comfortable with computers- that's something I'm working on... We will have a new textbook next year, which will include lots of software - so next year may be a perfect time for a graduate student to work with me in the classroom. Meanwhile, I'll keep coming to workshops and try to become more comfortable with MACs (I use my PC at home much more often!)" Bonnie, Middle and Upper School French

As we continue to evaluate this partnership, specific areas of further focus will emerge to help us prepare for our next partnership. Questions and concerns that may arise from our evaluation:

- The issue of time and commitment from those involved may emerge.
- Are there other ways and times to incorporate these learning objectives for the teachers?
- What has the teacher gained from participating in this type of workshop?
- What other pieces of technology or curriculum need to be part of the workshop format?

In addition, the teachers will have an opportunity through this evaluation to review the knowledge they have acquired and the direction they wish to pursue for additional learning. Those planning these workshops will also have the opportunity to evaluate the format and direction that the workshops took.

Future Planning

We hope that the evaluation from all those who participated in the workshop process will give light to their increasing knowledge and understanding of working with technology within their curriculum. One reason our focus has been on the specific subject areas is in hope that those teachers will feel supported by their colleagues who are also taking part in the workshop. Should the partnership continue at this level we will continue to focus on curricular areas and work with the remaining academic departments. In addition, the support given by the Lehigh University graduate students directly to the individual teachers will provide the Moravian Academy teachers with the encouragement needed to use their new found skills to enhance their teaching. Therefore, we can address the questions of how this format was useful and added to their teaching experience. All this knowledge will assist us in our future planning.

References

Bronack, S. & Hornung, C. (2000). Preparing technology-based teachers: Professional lessons from a K-12/University collaborative, *TechTrends* 44 (4), 17-20.

Education Week (1999). Technology Counts '99 Survey Highlights.
<http://www.edweek.org/sreports/tc99/articles/survey.htm>

Fatemi, E. (1999). Building the digital curriculum: Summary. <http://www.edweek.org/sreports/tc99/articles/summary.htm>

Schacter, J. (1999). *The impact of education technology on student achievement: What the most current research has to say*. Santa Monica, CA: Milken Family Foundation.

United States, District of Columbia (1999). School Technology and Readiness Report. Professional Development: A Link to Better Learning. The CEO Forum on Education and Technology, Year Two.

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